

II. Remarks

Reconsideration and reexamination of the present application, in view of the above amendments and following response, is herein respectfully requested.

Claims 8-14 are new; claims 1-14 are pending.

Amendments to the Claims

Claim 1

Applicant has amended claim 1 to add several limitations. First, a new element is added: a “lower ring step.” The specification identifies this element as “larger step portion 60” in figures 3 and 4 and in the last sentence of paragraph [0029]. The lower ring step 60 extends downwards on the lower (secondary) portion of the intermediate ring and has an axial length substantially equal to an optimally compressed second sealing ring 42. Second, the claim is amended to clarify that the first planar annular portion is configured to engage the actuating shoulder, and that the second planar annular portion is located at the terminal end of the lower ring step and is configured to engage the surrounding surface adjacent to the threaded bore.

Third, the claim is amended to more clearly state that the second sealing chamber (for the second sealing ring) is formed by the cooperation between the second sealing ring seat, the surrounding surface adjacent to the threaded bore, and the externally threaded portion of the screw-in part. Fourth and finally, the claim is amended to state that the second sealing ring surrounds and overlaps at least one thread of the externally threaded portion of the screw-in part.

Claims 8 – 14

Claims 8 – 14 are intended to reformulate and clarify the limitations present in claims 1 – 7 as amended. The limitations of claim 8 reorganize the limitations of claim 1 according to structure in paragraph form. Dependent claims 9 – 14 are likewise intended to reflect the same limitations of dependent claims 2 – 7.

Claims 8 – 14 are not intended to introduce new or substantively different limitations than claims 1 – 7.

Claim Rejections – 35 USC § 112

The Examiner rejected claims 1-7 under 35 U.S.C. § 112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended claim 1 to make clear that he is not positively claiming as structure the surface adjacent to a mouth of the threaded bore of the base part. Rather, the recited portion of the base part cooperates with elements of the claimed apparatus to form a second sealing chamber for the second sealing ring. Applicant respectfully submits that claim 1 as amended, as well as all claims dependent thereon, now satisfy § 112 and are in condition for allowance. Applicant further notes that new claim 8, which is intended to reflect the limitations of claim 1, is organized more clearly according to structure. Like amended claim 1, claim 8 recites a structural relationship between the claimed structure and the threaded bore and base part but does not positively claim these items as subject matter of the invention.

Claim Rejections – 35 U.S.C. § 102

The Examiner rejected claims 1-7 under 35 U.S.C. § 102(b) as being anticipated by Neuschotz (U.S. 3,212,796). Applicant continues to respectfully traverse this rejection for the reasons given in his reply filed March 14, 2007. Most importantly, Neuschotz does not disclose a screw-in part having an externally threaded portion for screwing into a base part.

Nevertheless, applicant has amended claim 1 to further distinguish his invention over Neuschotz in five respects. First, claim 1 as amended now recites a “lower ring step” of the intermediate ring. This new claimed element extends downward (away from the actuating shoulder), and terminates at its “second planar annular portion.” Second, the lower ring step cooperates with the threaded portion of the screw-in part and the surface surrounding the mouth of the threaded bore to form a second sealing chamber, effectively enshrouding the second sealing ring. Third, the lower ring step has an axial length which is substantially the same axial length as an optimally compressed second sealing ring. The Neuschotz fitting is configured to screw into a base part 10 having a multi-diameter bore. The Neuschotz fitting has no structure comparable to a lower ring step, and hence no lower ring step that cooperates to form a sealing chamber, and no lower ring step having an axial length which is substantially equal to an optimally compressed sealing ring.

Fourth, claim 1 as currently amended recites that the second sealing ring surrounds and overlaps at least one thread of the external threaded portion of the screw in part. In contrast, the second sealing ring 30 in the Neuschotz fitting does not engage any threads. Indeed, Neuschotz teaches away from a sealing ring

that engages threads, stating in his specification (col. 2 lines 42-45) that the external threads of screw-in fitting 12 and corresponding internal threads of the base part 10 both desirably terminate at a common plane 23, so that sealing ring 30 engages smooth surfaces 29 and 26 (col. 2 lines 63-65). Fifth and finally, claim 1 as amended recites that second sealing chamber is partially formed by the threaded portion of the screw-in part. Again, Neuschotz teaches away from having threads come into contact with the second sealing ring.

Regarding the third point discussed above, Applicant notes that there is adequate support in the specification for the limitation “optimal compressed state” of the second sealing ring. Figure 3 shows second sealing ring 42 in an unmounted state, showing an embodiment where second sealing ring 42 is configured as a typical O-ring. Figures 1 and 2 show second sealing ring 42 in a mounted state, where the sealing ring has been compressed and deformed to snugly fit and fill the space of second seal chamber 44. The text portion of the specification also discloses this optimum compressed state. See paragraph [0027] (stating that Figures 1 and 2 show sealing rings 18 and 42 in optimally compressed state); paragraph [0003] (seal chamber formed for enclosed, compressed accommodation of sealing ring); paragraph [0006] (describing in detail the structure of the second seal chamber and noting it is designed for optimum enclosure of the second sealing ring); see also paragraph [0007] (noting that intermediate ring 30 when screwed in completely achieves “the requisite compression of the first sealing ring”).

Claims 2-7 all depend from claim 1 and are therefore similarly in condition for allowance for at least the reasons given above.

Claim Rejections – 35 U.S.C. § 103

The examiner rejected claim 5 under 35 U.S.C. 103(a) as being unpatentable over Neuschotz in view of Hagan et al. (US 6,027,144). Applicant respectfully traverses this rejection for the reasons discussed above. Neuschotz does not read on claim 1, and neither alone nor in combination with Hagan suggests applicants' novel intermediate ring structure.

Conclusion

Applicant's amendments to claim 1 have addressed the examiner's § 112 second paragraph rejection. Applicant continues to traverse the examiner's § 102(b) anticipation rejections for the reasons given in his March 14, 2007 reply. Applicant has nevertheless amended claim 1 to further distinguish his claims from Neuschotz. Claim 1 and dependent claims 2-7 are therefore in condition for allowance.

Applicant has added new claims 8-14. These claims are intended to reflect the same limitations present in claims 1-7. Applicant therefore respectfully submits that claims 8-14 be considered at this time in conjunction with claims 1-7.

Applicant's attorney is available to discuss by telephone interview the possibility and/or desirability of cancelling one of these sets of corresponding claims.

Claims 1-14 are now in condition for allowance. Such action is earnestly solicited.

Respectfully submitted,

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Date

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